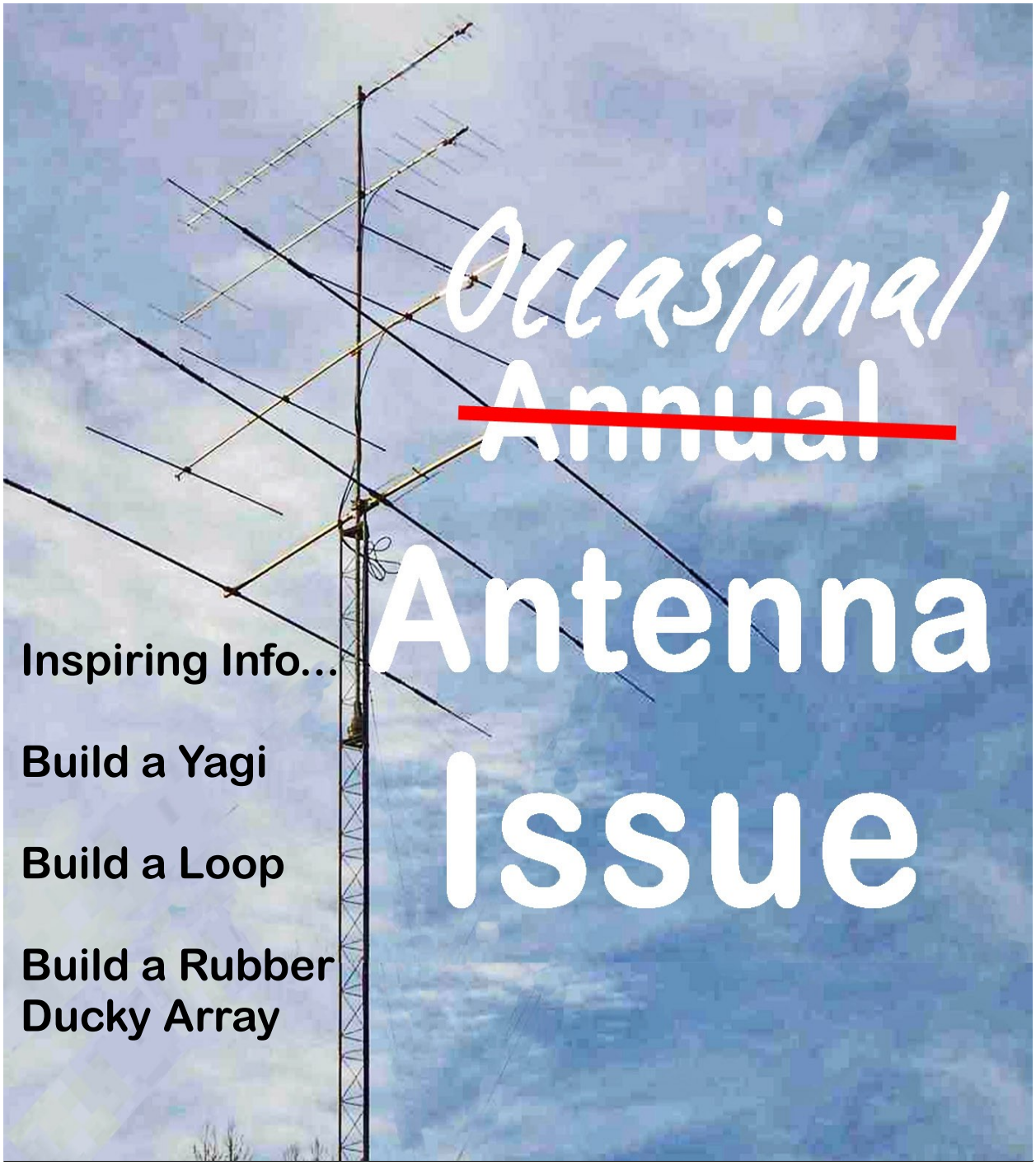
The Logger's BARK

1916 - Radio Club of Tacoma - 2017

April Fools, 2017 Volume 14, Issue 04

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Occasional ~~Annual~~ Antenna Issue

Inspiring Info...

Build a Yagi

Build a Loop

Build a Rubber Ducky Array

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UpComing Notable Club Activities

4/26, Weds 7:00 PM Clubhouse Activity Night
Field Day Planning Meeting
4/29, Sat, 09:30 AM Donut Tasting at Clubhouse
5/3, Weds, 7:00 PM Club Officers Board Meeting
Most Saturdays, 9:30 AM—Coffee n Donuts
See w7dk.org for more details….
5/9, Tues, 7:00 PM, VE Testing at Clubhouse
5/10, Weds, 7:30 PM– Club Meeting. See w7dk.org
5/24, Weds, 7:00 PM Clubhouse Activity Night
Techy Program TBD.

Mini Hamshack of the Month

By Contributing Members

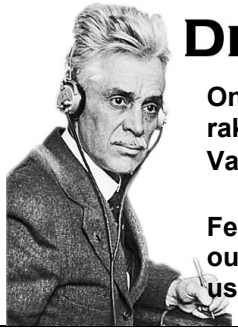


This simple ham shack was submitted by a member who insisted that she/he remain anonymous. FB with me, as long as the photos keep coming in.

The radio is a Chi-Comm CC-9600—5 band Handy Talkie: 6M, 4M (Great Britain), 2M, 70cM, and 465 MHz Family Radio Service. The radio is capable of receiving the AM Broadcast Band up to 990 MHz AM, CW, SSB, FM for shortwave listeners.

The Rubber Ducky Array, with its six whips make it easy to enjoy good reception on any frequency the radio operates on.

You can easily duplicate the array for your own use- with Amazon dot com and Ebay BNC adaptor fittings and various ducky/ whip antennas. Google is your friend to find the parts.



Did You Know?

On April 1, 2014 President Barak Obama was issued the Vanity Call Sign: N0BMA.

Feb 7, 2007 Morse Code was outlawed. Now only Outlaws use Morse Code on the air.

Be Involved at Your Club…



BY RICH KR7W - BARK EDITOR

This is the time of year that your club begins Field Day Planning. The first planning meeting is Wednesday, 4/26, 7 PM, at Clubhouse. RCT's Field Day Field Marshall– Adam W2NCC will be revealing the current plan and obtaining ideas from interested attendees.



ARRL Field Day and ARRL November Sweepstakes contest are my favorite High Frequency (HF) operating events of the year. If you are a new club member and haven't been to a Field Day before- It's a great experience to work together as a group, see some interesting techniques, and make some High Frequency QSOs. It's also good fun.

There usually are a few more planning meetings and (maybe) some operating practice sessions between now and the actual event– this year is June 23, 24, and 25. Until your radio club publishes more FD info– I encourage you to learn more about it from the Sponsor– The mother-ship of ham radio clubs– the ARRL… http://www.arrl.org/field-day CLICK LINK.

There's a surprising amount of interest in the May 21 Hidden Transmitter Hunt to be held at Pt Defiance Park. See www.w7dk.org for more info. A handful of folks are building Yagis and obtaining electronics so they can find the elusive Bunny. Photos and text follow in this month's Bark newsletter.



Click HERE to see the rest of the BUNNY.

In 8 months, my promise to create 24 months of Bark Newsletters will be up. It's not too early to express your interest in becoming the next Newsletter Editor. Contact President Dave to express your interest or desire. w7uuu@w7dk.org CLICK LINK.



There's been some antenna construction to view at the clubhouse this last month. As result– the April Fools 2017 Bark is quasi dedicated to Antennas.

Apologies for no ***real*** hamshack of the month, Prez Report, What's New in Ham Radio, or the Photo Page.

A Tippy of the Barkie Hat goes out to John N7TES for the nice photos submitted. TU es 73.

The Doc Spike W7OS MINI-Museum Report

The Museum's latest restoration project— The Eldico SSB-100F Transmitter has serious issues.



Eldico SSB-100F on the Museum Operating Table awaiting experimental surgery.

The Eldico is Sick-O. Testing reveals that there is an internal short in the very large power transformer– which provides +850 Volts, +380 Volts, -75 Volts, 6 and 12 VAC to power this complex transmitter.

The next step is to see if the there is something else wrong with the radio– as power transformers can be replaced with one or more 'Add On' units from other sources. Next steps will be to build an umbilical cable to connect Acme 2X807 Wooden Transmitter– which produces voltages close to what Eldico needs- and splice into the Eldico. If the Eldico works on a 'heart-lung bypass' machine kind of operation… then we'll begin looking for substitute power transformers. End of Report– KR7W.

Back by Popular Demand…

Again, because of a more depressing winter than usual– The Bark Editor takes more Artistic Liberty and creates a Ham Radio Free safe-zone on this page to visit the Great Outdoors.

On this early fall day- Mt Rainier from the west side is viewed from Spray Park. See scenic Spray Falls on the way.

The Trail Head is at Mowich Lake, about a 3 mile walk up a 1000 ft elevation gain hill. Trail shoes and trek poles are recommended.



AROUND THE CLUBHOUSE
PAST, PRESENT & FUTURE INFO

Dateline: Saturday, April 15– RCT Clubhouse…

An impromptu (5 days notice given) Tape Measure Yagi building session was held in the Clubhouse Picnic area– out back. KR7W brought pre-cut 1/2 inch PVC pipe and fittings, glue, screws and some tools. The builders brought their own pieces of one inch tape measure material for the Yagis elements.



Mike W7MKE (L) and Paul W7PFU help each other out with assembly. The Yagi on the left is the model they are loosely copying.



A tippy of the Barkie Hat to club members who GET INVOLVED in Club activities.

Mike W7XH (L) drills holes into tape measure material (not easy to do) that will become the driven elements of the antenna. Member Jim (R, call unknown) enthusiastically assists.

After holes are drilled– then paint is scrapped from tape and solder is applied. The tape elements are then screwed to the PVC pipe fitting with small sheet metal screws. Then the coax feed-line and Hair Pin matching network are soldered in place.

MFJ Antenna Analyzer stands by to check SWR.





W7MKE Mike screws down Yagi Elements to PVC fittings using #6 sheet metal screws.

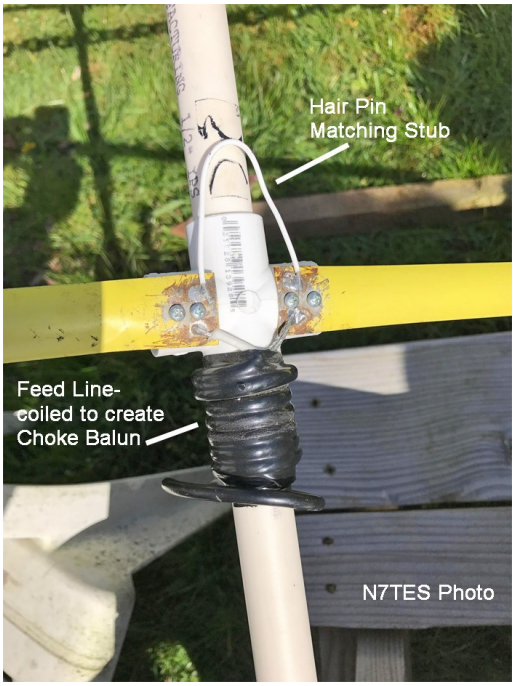


This is going to be a great antenna 'cuz the SWR is really low across the entire band! Paul W7PFU uses MFJ Antenna Analyzer.



Left Photo: Bob K7MXE shows Mike W7XH how to use the Active Attenuator to hunt hidden transmitters. Mike easily found both bunnies.

Right Photo: Incase anyone is wondering how it all goes together– this image might help.



Also during this Saturday activity time– Bob K7MXE and Mike W7MWF brought their already built Tape Measure Yagi antennas equipped with Active Attenuator and Wouxun Handy Talkie to find hidden transmitters. KR7W hid a low power Bunny on the club property and a higher power unit across the street– down the alley. Bob and Mike assisted interested attendees in finding the Bunnies.



2 Meter Hidden Transmitter Hunt

Sunday, May 21 10 AM - 2 PM

Fort Nisqually - Point Defiance Park see: www.w7dk.org



Club Meeting Traffic

Provided by: Mike W7MWF, Club Secretary

Radio Club of Tacoma
Board of Directors Meeting Minutes
March 1, 2017

Meeting called to order at 7:02 p.m. by Vice President Mike W7XTZ

Officers and Directors Present

Vice President	Mike Mikuchonis W7XTZ
Secretary	Mike Finnie W7MWF
Treasurer	Steve Dightman AF7YD
Board	Phil Pia K7PIA
Board	Red Cranefield WB7EC
Board	Bruce Hanson WE7P

Quorum A quorum was seated. There were 9 names on the attendance roster.

Silent Key or Illness Steve AF7YD reported that Past President Chuck Nee W7PWN had become a silent key

Minutes of February 1, 2017 Board Meeting were approved as distributed and coordinated

Secretary's Report (W7MWF) Usual Correspondence; Memberships, utility bills, periodicals.

Treasurer's Report (AF7YD) Steve AF7YD reported on payments made (taxes and utilities) and that 2016 reconciliation was still in progress.

Committee / Reports Membership—George K7GRS explained that he was going turn the reins of the Membership duties over to Mike W7MKE, but would continue as background helper for Membership. His primary focus is going to be on archiving and library duties, and assistance for Salmon Run and other mass-mailings.
Mike W7MKE reported current active membership is 266. He distributed sample membership cards, plus submitted a preliminary proposal for development of a "New Member Welcome Packet". A copy of Mike's proposal is filed with these minutes.

Training Tech class March 11/12; VE Exam March 14
General class ten sessions ongoing on Mondays until April 17

Info Tech Randy WB4SPB reported all systems nominal, and that the malfunctioning research computer upstairs was now operational

HF Operations Phil K7PIA reported that the rotor was still broken and that inclement weather had delayed inspection of the device.

Repeater Ops It was reported that the repeater operations are nominal, and that the parts had been ordered to upgrade the repeaters.

Facilities Mgmt Bruce WE7P reported that all was in order at the clubhouse facility.

Property Mgmt Mike W7MWF reported that the February mini-swap-meet generated $856 in revenue. PMT will be manning 2 sales tables at Mike and Key Hamfest on March 11. Randy WB4SPB mentioned the donation of equipment from the Albert Bacon N7AEB estate and requested that the club send a thank you letter to his family.

Museum (KR7W) Randy WB4SPB reported that the SX-28 had been aligned and would soon be available for communications use.

Weds Activity Night Last month's Show and Tell was a big success. March topic TBD

General Meeting (W7UUU) To be determined

Unfinished Business (if not addressed during committee reports)

Update on 147.28 repeater upgrade (was covered during committee reports)

Update on Library computer status (was covered during committee reports)

New Business
Recognition letter for Clark County ARC

Activity Reports and Discussion Topics

Special Olympics Ham Participation The Club was contacted about providing amateur radio operators to assist with the Special Olympic of Washington Summer Games 2017 that will be held at PLU and the surrounding communities June 3rd and 4th 2017. Contact is John Caverly, KC7OLB Jonathan Caverly caverlyj@gmail.com. Steve AF7YD will follow up with Mr. Caverly for more information. It was noted that SeaPac is the same weekend as the Special Olympics event.

Mike W7MWF circulated a letter to be sent to the Clark County Amateur Radio Club congratulating them on their receipt of the 2017 Hamvention Club of the Year Award. The letter was signed by those present and will be sent to the club after minor edits and after President Dave W7UUU has an opportunity to sign it.

Announcements-
Mike and Key Hamfest March 11th. 2 sales tables and info booth.

Adjournment
was at 8:28 p.m.



Radio Club of Tacoma
General Membership Meeting Minutes
March 8, 2017

Meeting called to order at 1932 PST by President Dave W7UUU at the Pierce County Library Administration Building.

Officers and Directors Present

President	Dave Ellison W7UUU
Vice President	Mike Mikuchonis W7XTZ
Secretary	Mike Finnie W7MWF
Treasurer	Steve Dightman AF7YD
Board	Red Cranefield WB7EC
Board	Phil Pia K7PIA
Board	Paul Matney W7PFU

Pledge of Allegiance led by George KF7OCD

Welcome and Self-Introductions

Guests present were George KF7OCD and Braden KG7THF
No new calls were reported
Self-introductions were completed. There were 36 names on the attendance roster.

Health and Welfare Silent Keys Chuck Nee former W7PWN and Past President (1962-63) recently became a silent key.

Secretary's Report Mike W7MWF reported receipt of the usual stuff, membership renewals and new joins, periodicals; QSL Cards

Treasurer's Report Steve AF7YD reported that the club was looking into acquiring free software through TechSoup. Also, the reconciliation of 2016 records is ongoing.

Committee / Activity Reports Membership Mike W7MKE reported that there are 267 current active members and that the Membership Committee is developing a "New Member Packet"

Training Technician Exam Training will be held March 11/12
General class 10 week session begins February 13 through April 17

VE Report (AC7WW) The next VE Session will be held March 14th.
HF Operations Phil reported that the antenna rotor is broken and he is waiting for better weather to have an inspection performed.
Repeater Ops It was reported that all systems are nominal and that parts have been received to upgrade the repeater controllers.

Museum Rich KR7W reported that the recently refurbished SX-28 is up and running and will soon be available for use in the museum. Also, the next project will probably be restoration of the Eldico transmitter.

Facilities Mgmt Bruce WE7P was absent, but there were no reports of any clubhouse anomalies.

Prop Mgmt Mike reported the the February Saturday Sale (pre Mike & Key) with member discount netted the club $856. The club will be represented with 2 sales tables and 1 info table at the M&K event on March 11. Club members were invited to help out at the Info Table.

4th Weds Activity Night Topic TBA

Program Amateur Radio Fun for Daredevils – George Ure II KF7OCD presented us with tales about amateur radio operations under somewhat unusual situations and unique environments. He showed video clips of a VHF QSO with our President Dave W7UUU from a snow cave, and of parachute jump from 15,000 feet and making QSOs while under canopy (Airborne – All the way). Assisting George in the presentation was fellow skydiver and helicopter pilot Bradon KG7THF. The program inspired us to set our goals high and push the envelope as much as we can.

Unfinished Business and Announcements

Mike and Key Swap Meet Saturday March 11 at 9am Puyallup Fairgrounds – Volunteers to provide relief at Info Booth upstairs.

Comm Academy 2017 - April 22-23 at South Seattle College - A weekend-long training workshop for Volunteer Emergency Communicators. Registration for one or both days includes lunch. Web page for further details: www.CommAcademy.org. Registration opens Sunday, February 26, 2017.

Special Olympics Ham Participation Steve AF7YD reported on the solicitation for amateur radio operators to assist with the Special Olympic of Washington Summer Games 2017 that will be held at PLU and the surrounding communities June 3rd and 4th 2017. Contact John Caverly, KC7OLB caverlyj@gmail.com. Steve has been in touch with Mr. Caverly and encouraged members who are interested in participating to contact John. It was noted that this event occurs on the same weekend of the SeaPac HamFest/Convention

Show and Tell None Reported

Tuning and Traffic None reported

Door Prize and Raffle Prize Mike Scott KB7MS cleaned house tonight winning both the Door Prize and the Raffle Prize.

Adjournment at 2055 PST we adjourned.

HINTS AND KINKS
CONSTRUCTION & INSTRUCTION
BY READER SUBMISSION

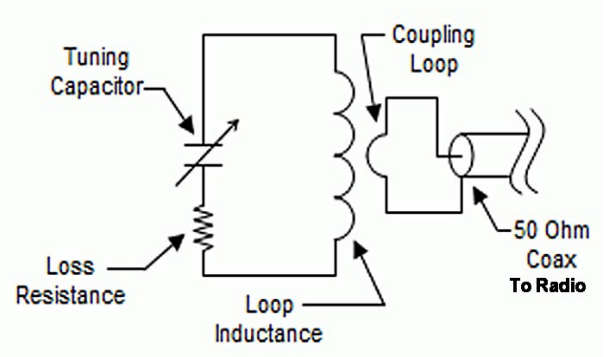
Get Loopy- Build a Magnetic Loop Antenna– for High Frequency Use

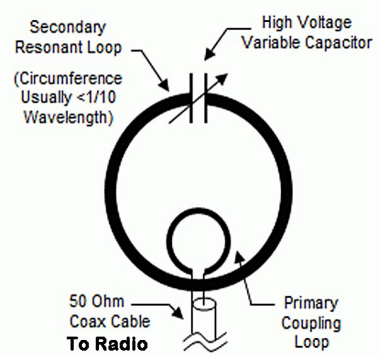
[***Editor's Note***: Magnetic loop antennas are considered complex antennas– mostly because they are different than the typical dipole or vertical– with an element of danger from very high voltages, as well as requiring a bit more techy knowledge to build one. The purpose of this article is to introduce readers to this intriguing antenna.]

What is a Magnetic Loop Antenna? It's a small loop antenna– 1/10th of a wavelength in circumference. It's known as a ***magnetic*** loop since it electrically behaves like a coil or inductor (electro-magnet). Its radiation resistance is very low due to its small size compared to the one or more wavelengths of wire typical of amateur wire loop antennas.

Antennas normally emit or receive two fields– the electric and magnetic. This antenna couples the magnetic field of the radio wave in the near field of the antenna in contrast to vertical or dipole antennas which couple the electric field of the wave. The main application of loop antennas are for receiving– where the oscillating magnetic field of the incoming radio wave induces– by induction- a current in the wire winding. Receiving loops are desired by some hams because they can eliminate man made noise from a particular direction. The Magnetic Loop can be used as a transmitting antenna– but with much lower efficiency versus a full sized dipole or vertical antenna.

Magnetic loop transmitting antennas are popular with QRP operators because the low power loops can be made from light weight materials, quickly folded and stowed for easy transportation. High power loops need to be built from a low resistance, more rigid conductor such as 1/2 inch copper pipe and have the ability to safely manage very high voltages.





The typical magnetic loop works like a transformer– where there are two coils of wire that couple the magnetic fields to transfer energy and transform the 50 ohm impedance (Z) of the radio into the larger inductor– which has a tuning capacitor across the coil. This combination creates a parallel tuned circuit when tuned to the desired operating frequency. A parallel tuned circuit has a very high Z across it– which (Ohm's Law) creates a very high voltage. The tuning capacitor must be carefully selected to have wide spacing between the

plates so the high voltage will not jump the gap and short out when the loop is being transmitted into. The current flow in the larger loop is also quite large– so it's important to use very low resistance conductor material for this element. 1/2 inch (or larger) copper pipe provides low enough resistance for a 100 watt transmitting loop.

The good: Mag Loops are small in size for easy portability. Take it to the park, set it up, next to the picnic table and make some QSOs. Or move it from inside of the garage to the driveway to have a pretty good antenna for your ham station if you live in an antenna restricted neighborhood– or many other situations that fit in between those just listed.

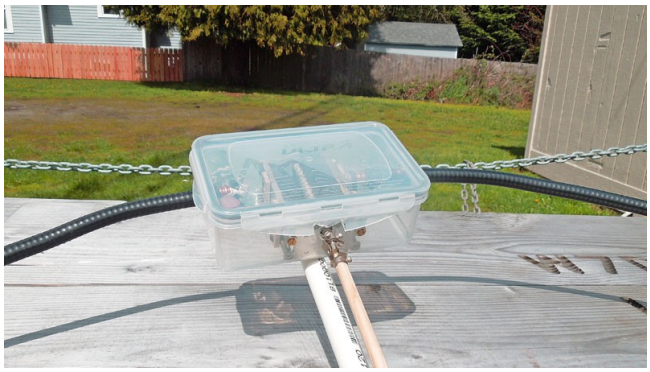
The not so good: Mag Loops are not efficient (as compared to full size dipole or vertical), especially for 40 Meters or lower in frequency. There is an element of danger– where a very high voltage exists across the tuning capacitor when transmitting. The high voltage issue limits the amount of power that can be transmitted to 100 watts. This antenna has a very narrow bandwidth– so the operator must tune if the frequency is changed more than 30 KHz.

It's your Editors opinion that a Mag Loop antenna is worth perusing like Radio Club of Tacoma member Nolan K7GBM did…

Nolan– has a history in radio. He spent 21 years in the Army Signal Corps using a Collins KWM-2. Nolan established and operated the (now defunct) MARS station at Ft Lewis. After the Army – Nolan became a Pastor at a Tacoma Baptist church. In November of 2015 Nolan's house burnt down… along with his ham station and tower. Nolan now lives in an apartment and misses getting on the air.



Nolan K7GBM and his 20 meter mag loop.

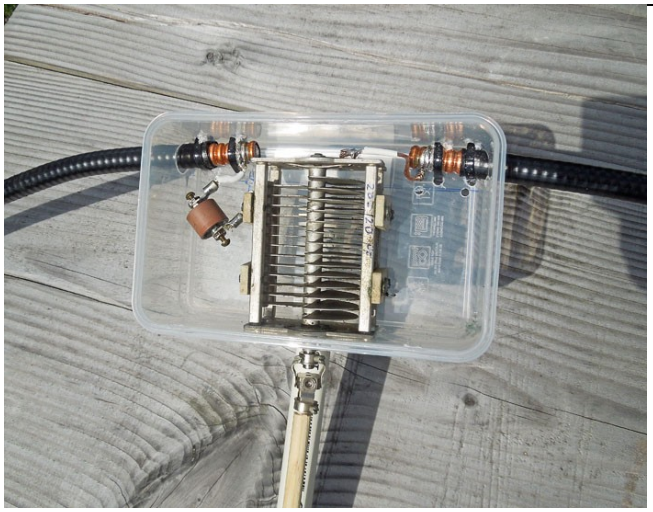


Plastic lunch box container protects tuning capacitor. Wooden dowel extends the capacitor shaft downward for tuning away from the High Voltage capacitor.

At a recent Saturday at the Clubhouse… Nolan was expressing his desire to get back on the air from his apartment. It just so happened that Nolan was surrounded by Antenna Experts who conceived the idea of "How 'bout a Magnetic Loop?" Various ham radio website/blogs were studied.

A 15 foot piece of 1/2 inch hard-line coax was found on the Free Table that became the low resistance radiating loop conductor. A high voltage tuning capacitor was donated and placed in a Tupperware like plastic container.

Another member built the small feed loop with SO-239 jack. A 27 ft length of coax



The "Bread-Slicer" high voltage capacitor shown. The brown cylindrical gizmo is a high voltage ceramic capacitor wired in series with the variable capacitor to lower the effective value of the variable unit. This makes for more 'fine tuning'. Hard-line coax is hald to the plastic box using wire ties. Soldering #12 AWG stranded wire connects the hard-line coax to the tuning capacitor.

feed line was also donated. A garage sale music stand was obtained for the base. A more rigid tuning shaft was provided by PJ N7PXY. After Nolan fabricated the PVC pipe form– all of the parts were assembled at the Clubhouse.



The 'coupling' loop or 'feed-line' loop is held in place with wire ties. This allowed for easy movement to adjust for the best SWR. Once in place– it was taped down.

A generous club member gifted Nolan an older Icom IC-736 transceiver– complete with 'intermittent problems'. Bruce WE7P and Rich KR7W found that the speaker was bad. A Free Table external speaker was plugged in- and now the radio seems to work well. An old Motorola mobile microphone was modified for Icom 8 pin… now Nolan can operate SSB on 20 meters. .

Testing commenced at the Clubhouse on picnic tables out back. Band conditions prevented SSB QSOs, but two CW QSOs were made with 100 watts. Everyone is waiting for a report from Nolan that he made some QSOs using his home-brew magnetic loop antenna sitting on his back deck.

Loop Antenna Resources:

AA5TB web pages– a great source of info, including calculators: http://www.aa5tb.com/loop.html CLICK LINK.

The Alex Loop: http://www.alexloop.com/ popular with Summits On The Air hams.

MFJ-1786 Loop: http://www.mfjenterprises.com/Product.php?productid=MFJ-1786

Youtube has ideas and experts:
https://www.youtube.com/results?search_query=magnetic+loop+antenna CLICK LINK

RADIO CLUB OF TACOMA

1916 - 2016

100 YEARS OF SERVICE

THE LOGGER'S BARK is the *OFFICIAL PUBLICATION OF THE RADIO CLUB OF TACOMA*… and is published by RCT, PO Box 11188, Tacoma, WA 98411. The Radio Club of Tacoma is a non-profit corporation as defined by law, and all proceeds will be used exclusively for charitable and educational purposes. The Radio Club of Tacoma's Club House is located at 1249 Washington St, Tacoma, WA 98411, phone: 253-759-2040.

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MEMBERSHIP INFO: FULL (licensed) and ASSOCIATE (non licensed) is $35 per calendar year. $30 for Licensed Seniors (65 and over). Licensed family members at same address pay $20 each for the first two and are free for the third, fourth, and so on. Full-time students, licensed or non licensed, up to age 25 are $20 per year. Note: fees are applicable for the calendar year: Jan to Dec. Lifetime membership is 20 times the yearly fee you are eligible for.. Lifetime memberships are calculated based on the FULL and ASSOCIATE rates.

RADIO CLUB REPEATERS

Central Tacoma:	147.280 + PL=103.5	
Crawford Mountain	147.380 + PL=103.5	(E of Olympia @ 1500 ft ASL)
Central Tacoma:	440.625 + PL=103.5	
North Tacoma:	145.21 – PL=141.3	

www.w7dk.org [LINK] - For the latest and most current information on events and activities, visit the Radio Club of Tacoma Website.